UNITED STATES PATENT AND TRADEMARK OFFICE

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

EXAMINER
BHARADWAJ, KALPANA

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _20 March 2008_.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-20_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-20_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.	This Office Action is in response to an AMENDMENT entered Mar 20, 2008 for

the patent application 10/508451 filed on Sept 21, 2004..

2.	All prior office actions are fully incorporated into this Office Action by reference.

Status of Claims

3.	Claims 1-20 are pending. Claims 13-20 are new.

Claim Rejections - 35 USC § 102

4.	The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5.	Claims 1-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Stadler

(USPN 2002/0016548, referred to as **Stadler**).

Claim 1, 11, 12:

Stadler teaches a method of analyzing a quantity having temporal and spatial

variations, wherein a multidimensional output data array is formed (**Stadler**, ¶ 0063:

multi-dimensional "spatial vector") the multidimensional output data array comprises

array positions (**Stadler**, ¶ 0029: 3-dimensional vector, whose position is determined)

arranged along at least a first data-axis and a second data-axis (**Stadler**, ¶ 0065: three

axis EGM signals), values of the quantity are entered in the multidimensional output

data array, such that values of the quantity at substantially the same instant are entered

at respective positions in the multidimensional output data array at equal positions along

the first data-axis (**Stadler**, ¶ 0083: defining a set of sampled time points; **EN:** sampled

time points are values at particular instants of time) and values of the quantity at

substantially the same spatial position are entered at respective positions in the

multidimensional output data array at equal positions along the second data-axis

(**Stadler**, ¶ 0063: spatial vectors).

Claim 2:

Stadler teaches a method as claimed in claim 1, wherein values of the quantity

are acquired for respective temporal instants and for respective spatial sections and

values of the quantity for individual spatial sections are entered at respective positions

in the multidimensional output data array at equal positions along the second data-axis

(**Stadler**, ¶ 0063: processing spatial vectors; **EN:** processing involves entering positions

on the axis).

Claim 3:

Stadler teaches a method as claimed in claim 1, wherein values of the quantity

are acquired for respective time intervals (**Stadler**, ¶ Data related to … generated in real

time) and for respective spatial positions and values of the quantity for individual time

interval are entered at respective positions in the multidimensional output data array at

equal positions along the first data-axis (**Stadler**, ¶ 0073: manipulating the data values).

Claim 4:

Stadler teaches a method as claimed in claim 1, wherein values of the quantity

for successive time intervals are entered at adjacent positions (**Stadler**, ¶ 0005: PQRST

sequence) in the multidimensional output data array and values of the quantity for

adjacent spatial sections are entered at adjacent positions in the multidimensional

output data array (**Stadler**, ¶ 0005: successive PQRST complexes).

Claim 5:

Stadler teaches a method as claimed in claim 4, wherein values of the quantity

for radially contiguous spatial sections (**Stadler**, ¶ 0139: radians per cardiac cycle) are

entered at contiguous positions in the multidimensional output data array (**Stadler**, ¶

0139: filter characteristics are tuned from empirical data).

Claim 6:

Stadler teaches a method as claimed in claim 1, wherein the values of the quantity are derived from a series of images (**Stadler**, ¶ 0002: monitoring electrocardiogram).

Claim 7:

Stadler teaches a method as claimed in claim 6, wherein values of the quantity at respective instants are derived from respective images in said series of images (**Stadler**, ¶ 0005: waveform characterized by a periodic PQRST electrical activation sequence).

Claim 8:

Stadler teaches a method as claimed in claim 7, wherein respective positions in the multidimensional output data array are linked to respective spatial sections in respective images of the series (**Stadler**, ¶ 0070: data related to detection … for later uplink telemetry transmission and analysis).

Claim 9:

Stadler teaches a method as claimed in claim 8, wherein the multidimensional output data array is displayed, a position in the displayed multidimensional output data array is indicated and on the basis of the indicated position in the displayed multidimensional output data array the corresponding image of the series is displayed

and the corresponding spatial section in the image is marked (**Stadler**, ¶ 0056: A

display 59 would enable graphic and textual interface).

Claim 10:

Stadler teaches a method as claimed in claim 1, wherein the quantity pertains to

perfusion of the myocardium (**Stadler**, ¶ 0007: ischemic myocardium).

Claim 13:

Stadler teaches the method of claim 1, further comprising displaying the

multidimensional output data array (**Stadler**, ¶ 0056: A display 59).

Claim 14:

Stadler teaches the method of claim 13, wherein the values of the quantity are

derived from image data, and further comprising displaying the image data while

displaying the multidimensional output data array (**Stadler**, ¶ 0070: data related to

detection of ischemia).

Claim 15:

Stadler teaches the method of claim I, wherein the quantity is an average

brightness value of image data (**Stadler**, ¶ 0010: an average normal ST signal level).

Claim 16:

Stadler teaches the method of claim 15, wherein the image data comprises

perfusion data of a human myocardium (**Stadler**, ¶ 0007: ischemic myocardium).

Claim 17:

Stadler teaches the system of claim 11, further comprising a display device

adapted to display the multidimensional output data array (**Stadler**, ¶ 0056: display 59).

Claim 18:

Stadler teaches the system of claim 17, wherein the values of the quantity are

derived from image data, and wherein the display device is further adapted to display

the image data while displaying the multidimensional output data array (**Stadler**, Fig 4 &

5).

Claim 19:

Stadler teaches the system of claim 11, wherein the quantity is an average

brightness value of image data (**Stadler**, ¶ 0010: an average normal ST signal level).

Claim 20:

Stadler teaches the system of claim 19, wherein the image data comprises

perfusion data of a human myocardium (**Stadler**, ¶ 0007: ischemic myocardium).

Response to Argument

6.   Applicant's arguments filed Feb 11, 2008 have been fully considered but they are

not persuasive.

7.   Regarding Applicant's arguments on page 10:

        Stadler does not disclose any multidimensional output data array of claim 1 has

        at least two data-axes … along a second data-axis.

Examiner's response:

        Refer to (**Stadler**, ¶ 0063: multi-dimensional "spatial vector").   A 'vector' is an

'array' and 'multi-dimensional' would have multiple axes.

8.   Regarding Applicant's arguments on page 10 :

        Stadler does not disclose any values in any multidimensional output data array

        are derived from a series of images.

Examiner's response:

        Refer to (**Stadler**, ¶ 0065: three axis EGM signals).   EGM signals are image

signals from the heart where ischemia develops.

9.   Regarding Applicant's arguments on page 11:

        Stadler does not disclose any values populating a "spatial vector".

Examiner's response:

Refer to (**Stadler**, ¶ 0073: manipulating the data values).

10.   Regarding Applicant's arguments on page 11 :

Stadler does not disclose any positions in a spatial vector.

Examiner's response:

Refer to (**Stadler**, ¶ 0029: 3-dimensional vector, whose position is determined).

Examination Considerations

11.   Examiner has cited particular columns and line numbers or paragraph numbers

in the references applied to the claims above for the convenience of the applicant.

Although the specified citations are representative of the teachings of the art and are

applied to specific limitations within the individual claim, other passages and figures

may apply as well. It is respectfully requested from the Applicant in preparing

responses, to fully consider the references in their entirety as potentially teaching all or

part of the claimed invention, as well as the context of the passage as taught by the

prior art or disclosed by the Examiner. The entire reference is considered to provide

disclosure relating to the claimed invention.

Conclusion

12. Claims 1-20 are rejected.

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KALPANA BHARADWAJ whose telephone number is (571)270-1641. The examiner can normally be reached on Monday-Friday 7:30am 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Vincent can be reached on (571) 272-3080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Bharadwaj Kalpana/
Examiner, Art Unit 2129

/David R Vincent/
Supervisory Patent Examiner, Art Unit 2129